



IFW
2193

AMENDMENT TRANSMITTAL LETTER

Docket No.
A0734.70001US00

Application No.
09/731,678-Conf. #9300

Filing Date
December 6, 2000

Examiner
T. A. Vu

Art Unit
2193

Applicant(s): Sung-Hee Do, et al.

Invention: METHOD AND APPARATUS FOR PRODUCING SOFTWARE

TO THE COMMISSIONER FOR PATENTS

Transmitted herewith is an amendment in the above-identified application.

The fee has been calculated and is transmitted as shown below.

CLAIMS AS AMENDED					
	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
Total Claims	18	- 115 =		x	
Independent Claims	2	- 12 =		x	
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					
Other fee (please specify): Extension for response within first month; Request Under 37 C.F.R. §1.48(b)					60.00; 130.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:					190.00

☐ Large Entity

☒ Small Entity

☐ No additional fee is required for this amendment.

☐ Please charge Deposit Account No. 23/2825 in the amount of \$.
A duplicate copy of this sheet is enclosed.

☒ A check in the amount of \$ 60.00 to cover the filing fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The Director is hereby authorized to charge and credit Deposit Account No. 23/2825 as described below. A duplicate copy of this sheet is enclosed.

☒ Credit any overpayment.

☒ Charge any additional filing or application processing fees required under 37 CFR 1.16 and 1.17.



Dated: December 18, 2006

Scott J. Gerwin

Attorney/Agent Reg. No.: 57,866

WOLF, GREENFIELD & SACKS, P.C.

Federal Reserve Plaza

600 Atlantic Avenue

Boston, Massachusetts 02210-2206

(617) 646-8000

Certificate of Mailing Under 37 CFR 1.8(a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: December 18, 2006

Signature:  (Eileen M. MacKenzie)



Effective on 12/08/2004. Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).		Complete if Known	
FEE TRANSMITTAL For FY 2005		Application Number	09/731,678-Conf. #9300
		Filing Date	December 6, 2000
		First Named Inventor	Sung-Hee Do, et al.
		Examiner Name	T. A. Vu
		Art Unit	2193
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Attorney Docket No.	A0734.70001US00
TOTAL AMOUNT OF PAYMENT		(\$)	190.00

METHOD OF PAYMENT (check all that apply)	
<input checked="" type="checkbox"/> Check	<input type="checkbox"/> Credit Card
<input type="checkbox"/> Money Order	<input type="checkbox"/> None
<input type="checkbox"/> Other (please identify): _____	
<input type="checkbox"/> Deposit Account	Deposit Account Number: <u>23/2825</u> Deposit Account Name: <u>Wolf, Greenfield & Sacks, P.C.</u>
For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)	
<input type="checkbox"/> Charge fee(s) indicated below	<input type="checkbox"/> Charge fee(s) indicated below, except for the filing fee
<input checked="" type="checkbox"/> Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17	<input checked="" type="checkbox"/> Credit any overpayments

FEE CALCULATION							
1. BASIC FILING, SEARCH, AND EXAMINATION FEES							
	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee (\$)	Fee (\$)	Fee (\$)	Fee (\$)	Fee (\$)	Fee (\$)	Fees Paid (\$)
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	
2. EXCESS CLAIM FEES							
						Small Entity	
Fee Description						Fee (\$)	Fee (\$)
Each claim over 20 (including Reissues)						50	25
Each independent claim over 3 (including Reissues)						200	100
Multiple dependent claims						360	180
Total Claims		Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims		
113		- 115	x	=	Fee (\$)		Fee Paid (\$)
HP = highest number of total claims paid for, if greater than 20.							
Indep. Claims		Extra Claims	Fee (\$)	Fee Paid (\$)			
11		- 12	x	=			
HP = highest number of independent claims paid for, if greater than 3.							
3. APPLICATION SIZE FEE							
If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof		Fee (\$)	Fee Paid (\$)		
	- 100 =	/50		(round up to a whole number) x			
4. OTHER FEE(S)							
Non-English Specification, \$130 fee (no small entity discount)						Fees Paid (\$)	
Other (e.g., late filing surcharge): 2251 Extension for response within first month;						60.00	
Request Under 37 C.F.R. §1.48(b)						130.00	

SUBMITTED BY			
Signature		Registration No. (Attorney/Agent)	57,866
Name (Print/Type)	Scott J. Gerwin	Telephone	(617) 646-8000
		Date	December 18, 2006

Certificate of Mailing Under 37 CFR 1.8(a)	
I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as First Class Mail, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.	
Dated: December 18, 2006	Signature: Eileen M. MacKenzie



Attorney Docket No.: A0734.70001US00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Sung-Hee Do et al.
Serial No: 09/731,678
Confirmation No: 9300
Filed: December 6, 2000
For: METHOD AND APPARATUS FOR PRODUCING
SOFTWARE

Examiner: Tuan A. Vu
Art Unit: 2193

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to **Mail Stop Amendment** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 18th day of December, 2006.


Signature

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR RECONSIDERATION

Sir:

In response to the Office Action mailed August 16, 2006, Applicants respectfully request reconsideration. To further the prosecution of this application, each of the rejections set forth in the Office Action has been carefully considered and is addressed below. The application as presented is believed to be in condition for allowance.

Rejections Under 35 U.S.C. §101

The Office Action rejects claims 96-113 under 35 U.S.C. §101 asserting that these claims are directed to non-statutory subject matter. Specifically, the Office Action asserts that independent claims 96 and 105 do not yield a useful, concrete, and tangible result. Applicants respectfully traverse this rejection.

The Office Action asserts that in claim 96, “the final result thus conveyed does not reasonably teach that a tangible and concrete real-world results has been generated at the end of the method steps leading to defining of a software structure; that is, such structure remains but an abstract entity internal to a definition process, hence not materialized out into a reasonable real-world useful entity based on actual data transformation by hardware supported means other than a mere definition process, which appears to be just a internal or abstract function.”

Applicants note that to satisfy §101, the end result of a process need not be generated by a computer or other hardware. Indeed, the USPTO Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility (hereinafter, “the Guidelines”) state that, “it is immaterial whether the process may be performed by some or all steps that are carried out by a human. Claims are not directed to non-statutory processes merely because **some or all** steps therein can also be carried out in or with the aid of a human or because it may be necessary for one performing the processes to do some or all of the process steps (emphasis in original).” *See* Guidelines, page 47. Further, the Guidelines state that, “whether a claim recites a machine implemented process is not determinative of whether that process claim is statutory.” *See* Guidelines, page 48. Applicants also note that the claimed invention need not transform an article or a physical object to a different state or thing to satisfy §101. That is, the inquiry is whether the claimed invention yields a result that is useful, concrete, and tangible.

Claim 96 recites a method that yields a design matrix that maps each design parameter in the hierarchy of design parameters to the at least one functional requirement in the hierarchy of functional requirements. MPEP §2106(IV)(C)(2)(2) states that in determining whether a claimed invention yields a useful, concrete, and tangible result, “the focus is not on whether the steps taken are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is ‘useful, tangible, and concrete.’” As discussed below, the design matrix recited in claim 96 is a useful, tangible, and concrete result. *See* MPEP §2106(IV)(C)(2)(2), page 2100-12 of Original Eighth Edition, Rev. 5, August, 2006.

A. The Design Matrix Is A Useful Result

MPEP §2106(IV)(C)(2)(2)(a) states that, “for an invention to be ‘useful’ it must satisfy the utility requirement of section 101.” *See* MPEP §2106(IV)(C)(2)(2)(a), page 2100-12 of Original Eighth Edition, Rev. 5, August, 2006. The MPEP General Principles Governing Utility Rejections instruct, “[i]f the applicant has asserted that the claimed invention is useful for any particular practical purpose (i.e., it has a ‘specific and substantial utility’) and the assertion would be considered credible by a person of ordinary skill in the art, do not impose a rejection based on lack of utility.” *See* MPEP §2107(II)(B)(1), page 2100-20 of Original Eighth Edition, Rev. 5, August, 2006.

The utility of a design matrix is that it may be used to define an object-oriented structure of a software system, wherein functional requirements represent software objects and design parameters represent inputs to those software objects. As discussed below, this utility is both specific and substantial.

1. The Design Matrix Has A Specific Utility

A specific utility is one that “is specific to the subject matter claimed and can ‘provide a well-defined and particular benefit to the public.’” *See* MPEP §2107.01(I)(A), page 2100-22 of Original Eighth Edition, Rev. 5, August, 2006. The use of a design matrix to define an object-oriented structure of a software system is specific to the subject matter claimed, as claim 96 recites an act of, “using the design matrix to define an object-oriented structure of the software system, wherein at least one functional requirement in the hierarchy of functional requirements represents a software object of the software system, and wherein at least one design parameter in the hierarchy of design parameters represents an input to the software object.” Further, the design matrix provides a well-defined benefit to the public. That is, the design matrix provides for definition of an object-oriented software system that follows the principles of Axiomatic Design.

2. The Design Matrix Has A Substantial Utility

“[T]o satisfy the ‘substantial’ utility requirement, an asserted use must show that the claimed invention has a significant and presently available benefit to the public.” *See* MPEP

§2107.01(I)(B), page 2100-23 of Original Eighth Edition, Rev. 5, August, 2006. Further, “any reasonable use that an applicant has identified for the invention that can be viewed as providing a public benefit should be accepted as sufficient, at least with regard to defining a ‘substantial utility.’” See MPEP §2107.01(I)(B), page 2100-23-2100-24 of Original Eighth Edition, Rev. 5, August, 2006.

The use of a design matrix to define an object-oriented structure of a software system is presently, and was at the time of filing of the application, available. That is, the design matrix presently may be used to define object-oriented software systems and to generate software code that follows Axiomatic Design principles.

In view of the foregoing, it should be clear that the design matrix has a specific and substantial utility that Applicant believes is credible to one of ordinary skill in the art. Thus, it is respectfully asserted that the design matrix satisfies the “useful” prong of the requirement that the claimed invention yield a “useful, tangible, and concrete” result.

B. The Design Matrix Is A Tangible Result

MPEP §2106(IV)(C)(2)(2)(b) states that, “[t]he tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception to produce a real-world result.” See MPEP §2106(IV)(C)(2)(2)(b), page 2100-12 of Original Eighth Edition, Rev. 5, August, 2006.

The design matrix is a tangible result. It is not abstract, as it has a practical application (i.e., it may be used to design an object-oriented software system) that produces a real-world result. Thus, it is respectfully asserted that the design matrix satisfies the “tangible” prong of the requirement that the claimed invention yield a “useful, tangible, and concrete” result.

C. The Design Matrix Is A Concrete Result

MPEP §2106(IV)(C)(2)(2)(c) states that the question of whether an invention produces concrete result, “usually arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again.” See MPEP §2106(IV)(C)(2)(2)(c), page 2100-12 of Original Eighth Edition, Rev. 5, August, 2006.

The design matrix is a concrete result. The process that yields the design matrix is repeatable and a design matrix may be generated each time that process is repeated. Thus, it is respectfully asserted that the design matrix satisfies the “concrete” prong of the requirement that the claimed invention yield a “useful, tangible, and concrete” result.

In view of the foregoing, Applicant respectfully asserts that the invention claimed in claim 96 yields a useful, concrete, and tangible result. The invention claimed in independent claim 105 also yields a useful, concrete, and tangible result for similar reasons. Accordingly, it is respectfully requested that the rejection of claims 96-113 under 35 U.S.C. §101 be withdrawn.

Rejections Under 35 U.S.C. §103

The Office Action rejects claims 96-113 under 35 U.S.C. §103(a), as purportedly being obvious over “Axiomatic Design Theory for Systems,” by Nam P. Suh (hereinafter “Suh 1”) in view of “Systematic OO Programming with Axiomatic Design,” by Sung-Hee Do and Nam P. Suh (hereinafter “Suh 2”). Applicants respectfully traverse this rejection.

The application originally named Sung-Hee Do, Nam Pyo Suh, Robert Joseph Powers, and Derrick Edward Tate as inventors. In an amendment filed November 21, 2005, Applicant canceled all previously-pending claims (i.e., claims 1-95) and added claims 96-113. As a result of these claim amendments, the claim(s) to which Robert Powers and Derrick Tate contributed were cancelled, and only Sung-Hee Do and Nam P. Suh are inventors on the claims currently pending in this application (i.e., claims 96-113).

The rejection set forth in the present Office Action relying on Suh 2 prompted Applicants, in view of the large number of claims previously canceled, to review the currently pending claims and re-evaluate inventorship to determine whether Suh 2 actually qualifies as

prior art to this application. In conducting this evaluation, Applicants determined that neither Robert Powers nor Derrick Tate contributed to any of the currently pending claims (i.e., claims 96-113) and thus should be removed as inventors from this application. Accordingly, Applicant submits herewith a request under 37 C.F.R §1.48(b) to delete Robert Powers and Derrick Tate as inventors.

In view of this correction of inventorship, Suh 2 does not qualify as prior art to this application. That is, the authors of Suh 2 are the same as the inventive entity for this application (as corrected by the Request to Correct Inventorship submitted herewith). Thus, because the reference is not “by another,” it does not qualify as prior art under 35 U.S.C. §102(a). Suh 2 does not qualify as prior art to this application under any other subsection of §102.

Because Suh 2 does not qualify as prior art to this application, it is respectfully requested that the rejection of claims 96-113 under 35 U.S.C. §103(a) be withdrawn.

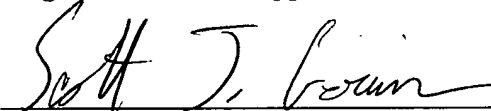
CONCLUSION

In view of the foregoing remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully Submitted,

Sung-Hee Do et al., Applicant

By: 

Scott J. Gerwin, Reg. No. 57,866
WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2211
Telephone: (617) 720-3500

Docket No.: A0734.70001US00
Date: December 18, 2006
x12/16/06x